

VOLUME 2

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Microsoft Windows Embedded Server Solution Characteristics

This guide is designed to help you understand the variety of dedicated server and server appliance solutions that can be built using Microsoft® Windows® Embedded Server products – server operating systems and applications with unique licensing terms for OEMs building embedded systems. The definitions of the following terms used within this guide are helpful to know:

Embedded Systems means computer systems or computing devices that:

- » Are designed for use with an embedded application
- » Are not marketed as general purpose personal computing devices
- » Are not usable as a commercially viable substitute for general purpose computing devices such as personal computers or multifunction servers

Embedded Application means industry- or task-specific software programs and/or functionality, not generally available to consumers (e.g., the software is not packaged for sale in retail stores), that are designed to meet the functionality requirements of the specific industry into which the embedded system is being marketed. An embedded application extends the functionality of the core operating system and may be provided by Microsoft, the OEM, or a third party.

Dedicated Server and Server Appliance are terms used in this product guide in place of embedded systems. These terms are used to communicate to the end-customer audience.

INTRODUCING WINDOWS EMBEDDED SERVER PRODUCTS

Microsoft® Windows® Embedded Server products give OEMs a powerful way to leverage the advanced Windows Server technology that is part of the Microsoft server product portfolio. These server software products provide the infrastructure for IT operations, security, application integration, and collaboration.

THE RIGHT SERVER TECHNOLOGY, THE RIGHT PRICE FOR OEMS

Windows Embedded Server products include optimized operating systems and server application software to address key dedicated server and server appliance deployment scenarios. Because Windows Embedded Server products are designed and licensed to provide *specific* server functionality within an IT infrastructure, Microsoft makes these server technologies available to OEMs at favorable royalty rates when compared to Microsoft general purpose operating systems. The result is powerful server technology at a price that OEMs can utilize to compete in price-sensitive markets.

A SMART CHOICE FOR OEMS AND THEIR END CUSTOMERS

More and more independent analysts and leading companies are finding that Windows Server technology outperforms Linux on total cost of ownership (TCO), reliability, security, and indemnification from intellectual property risks. For dedicated server and server appliance solutions, the choice is more clear than ever: Windows Embedded Server products.

SOFTWARE AND RESOURCES YOU NEED TO GET TO MARKET FAST

Windows Embedded Server products provide several key advantages to OEMs, including:

- » Reduced time-to-market through use of Microsoft-provided development tools and documentation, and software that is compatible with commodity hardware and industry standard protocols.
- » Opportunity to add unique *value* through the extensible nature of the Microsoft Server product portfolio and breadth of available third-party Independent Software Vendors (ISV) solutions.
- » Lower support and training needs for customers because of the hardened, streamlined nature of dedicated server and server appliance solutions.
- » Greater productivity as Windows Embedded Server products are easier for customers to deploy, manage, and use in existing Microsoft Windows operating system environments.



SERVER SOLUTIONS THAT CUSTOMERS WANT

Dedicated server and server appliance solutions that run Windows Embedded Server products can help end customers add functionality and capacity to their IT infrastructures in a very scalable and cost-effective way. Dedicated server and server appliance solutions running Windows Embedded Server products offer end customers:

- » Preconfigured hardware and software solutions optimized to excel at their task
- » Systems designed to quickly connect to existing IT infrastructures and to be managed easily
- » Licensing and engineering to reduce TCO, while ensuring reliable performance

Today's discerning IT customers demand best-of-breed server solutions that are easy to use and even easier on their budgets. Windows Embedded Server products provide OEMs with the means to meet these customer demands and capitalize on a significant revenue opportunity.

The diagram on the page to the right demonstrates the breadth of server device types that can be developed based on Windows Embedded Server products.

Windows Embedded Server Solution Characteristics

EASY TO SET UP

- » Preconfigured hardware and software solutions
- » Plug-and-Play deployment—often in less than an hour
- » Fast, simple connectivity to an existing network infrastructure

EASY TO MANAGE

- » Function-specific management utilities
- » Seamless integration with existing Windows-based networks
- » Interoperability with clients regardless of their operating system

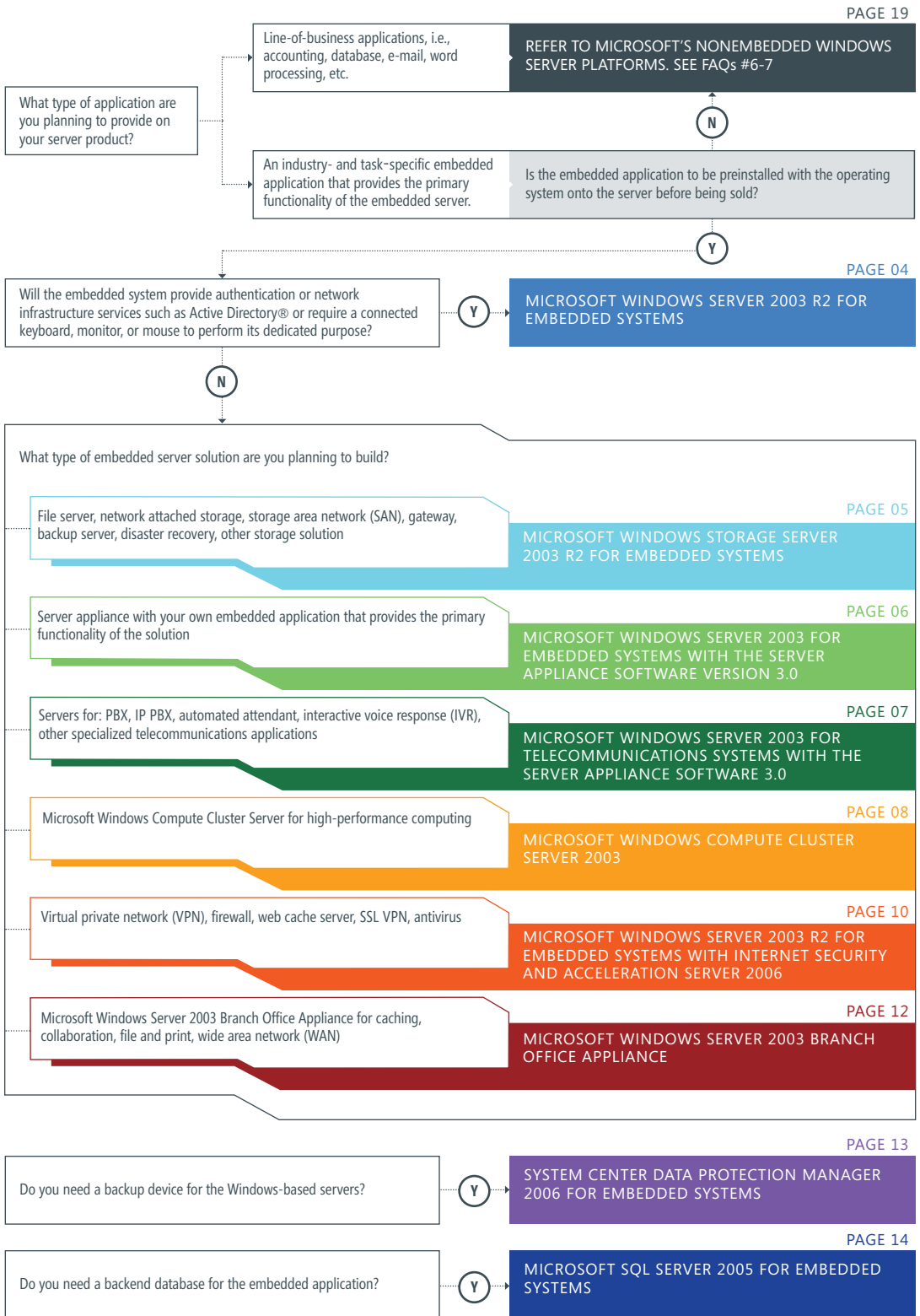
HIGH PERFORMANCE

- » Industry-leading functionality and integration
- » Built-in reliability, availability, and security features

LOW COST

- » Low acquisition cost
- » Low total cost of ownership
- » Minimal maintenance requirements
- » Enables reallocation of computing power of existing assets

SELECT THE WINDOWS EMBEDDED SERVER TO FIT YOUR NEEDS





Dedicated server and server appliance solutions running Windows Server 2003 R2 for Embedded Systems are typically designed to meet the needs of specific vertical markets. As with all Windows Embedded Server operating systems, Windows Server 2003 R2 for Embedded Systems is licensed to provide *specific* server functionality within an IT infrastructure.

Windows Server 2003 R2 for Embedded Systems is based on the same core software as the general purpose versions of Windows Server 2003 R2. Windows Server 2003 R2 is a highly productive server operating system with built-in security, reliability, and availability features. Windows Server 2003 R2 includes Plug and Play support, support for the latest communications protocols, and native support for Active Directory, .NET, and XML to easily connect information, people, systems, and devices.

Windows Server 2003 R2 includes several new technologies that make it easier to extend connectivity and control to identities, locations, data, and applications throughout and beyond an organization. Windows Server 2003 R2 for Embedded Systems takes advantage of the stability and security of the Windows Server 2003 R2 code base while extending connectivity and control into new areas. Windows Server 2003 R2 for Embedded Systems includes improvements relating to:


- » Identity and access management
- » Application development inside and outside an organization’s traditional boundaries
- » Storage setup and management
- » Branch office server management

Windows Server 2003 R2 for Embedded Systems differs from Window Server 2003 R2 exclusively in the licensing provisions. OEMs license the software for use in dedicated server environments at a reduced royalty rate and with licensing terms applicable to the embedded market. The software foundation is the same.

DEVICE TYPE EXAMPLES:

- » Streaming media (ECDN) server
- » Medical imaging
- » Security and surveillance
- » Document imaging server
- » Miscellaneous server solutions with qualifying embedded application(s)

OEM LICENSABLE PRODUCTS:

 WILL THE SERVER BE designed to participate in a Microsoft cluster?	EDITION	NOTES
IF YES,	Microsoft Windows Server 2003 R2 ENTERPRISE Edition (1-8 CPU)	» 32-bit or 64-bit » 25 CALS » add'l CALS available
IF NO,	Microsoft Windows Server 2003 R2 STANDARD Edition (1-4 CPU)	» 32-bit or 64-bit » 5 CALS » add'l CALS available

¹Note: Previous versions of Windows Server 2003 for Embedded Systems, including Windows Server 2003 for Embedded Systems with Service Pack One (SP1) *only* (prior to R2), are also available for license. Please contact a Microsoft Authorized Embedded Distributor for details.



Windows Storage Server 2003 R2 is a dedicated file and print server operating system based on Windows Server 2003 R2 that is designed for dependability and provides exceptional value in networked storage. Windows Storage Server 2003 R2 integrates seamlessly with existing infrastructures and supports heterogeneous file serving as well as backup and replication of stored data. Windows Storage Server R2 is also an ideal solution for consolidating multiple file servers into a single solution that enables cost reduction and policy-based management of storage resources.

Windows Storage Server 2003 R2 also includes advanced availability features such as replication and server clustering. Because Windows Storage Server 2003 R2 solutions are preconfigured, they can be deployed in minutes, and the Microsoft Management Console-based user interface—new with R2—makes management easy. Windows Storage Server 2003 R2 integrates with existing infrastructures, so enterprises can make full use of commonly used network environments and standard management software, as well as integrate seamlessly with Active Directory. Windows Storage Server 2003 R2 includes new technologies to manage a variety of file-and-print-related activities and tasks in branch offices, including:

- » Publishing files from centralized hubs to branch offices
- » Replicating files from branch locations for backup, fault tolerance, or cross-publishing
- » Efficiently managing printers, printer drivers, and print queues in branch offices
- » Single instance storage to reduce storage capacity needs and simplify storage management
- » Increase collaboration and consolidate storage with SharePoint Services

DEVICE TYPE EXAMPLES:

- » File and print serving consolidation
- » SAN gateway for file services
- » Disk target for backup
- » Miscellaneous storage server solutions with qualifying embedded application(s)

OEM LICENSABLE PRODUCTS:

QUESTION	ANSWER	EDITION	NOTES
<p>1 CPU, 2 or fewer ATA disks, and 1 network connection?</p>	IF YES,	Microsoft Windows Storage Server 2003 R2 EXPRESS Edition (1 CPU)	<ul style="list-style-type: none"> » 32-bit or 62-bit » up to 2 disk drives » 1 NIC only » no print service » no CALs required
<p>IF NO,</p> <p>1 CPU, 4 or fewer ATA disks, and 2 or fewer network connections?</p>	IF YES,	Microsoft Windows Storage Server 2003 R2 WORKGROUP Edition (1 CPU)	<ul style="list-style-type: none"> » 32-bit or 62-bit » up to 4 disk drives » up to 2 NICs » no print service » no CALs required
<p>IF NO,</p> <p>be designed to participate in a Microsoft cluster?</p>	IF YES,	Microsoft Windows Storage Server 2003 R2 ENTERPRISE Edition (1-8 CPU)	<ul style="list-style-type: none"> » 32-bit or 62-bit » unlimited disk drives » unlimited NICs » print service allowed » no CALs required
<p>IF NO,</p> <p>include iSCSI target with management software?</p>	IF YES,	Microsoft Windows Unified Data Storage Server 2003 STANDARD Edition (1-4 CPU)	<ul style="list-style-type: none"> » 32-bit or 62-bit » up to 2 disk drives » 1 NIC only » no print service » no CALs required
<p>IF YES,</p> <p>include iSCSI target with management software and participate in a Microsoft cluster?</p>	IF YES,	Microsoft Windows Unified Data Storage Server 2003 ENTERPRISE Edition (1-8 CPU)	<ul style="list-style-type: none"> » 32-bit or 62-bit » up to 2 disk drives » 1 NIC only » no print service » no CALs required

¹Note: Previous versions of Windows Storage Server 2003, including Windows Storage Server 2003 with Service Pack One (SP1) only (prior to R2), are also available for license. Please contact a Microsoft Authorized Embedded Distributor for details.

06 MICROSOFT WINDOWS SERVER 2003 FOR EMBEDDED SYSTEMS WITH THE SERVER APPLIANCE SOFTWARE 3.0



Windows Server 2003 for Embedded Systems with the Server Appliance Software 3.0 is available to OEMs building dedicated server or server appliance solutions designed to meet the server needs of *specific* vertical markets.

As with all Windows Embedded Server operating systems, Windows Server 2003 for Embedded Systems with the Server Appliance Software 3.0 is based on the same core software as the general purpose versions of Windows Server 2003, but is licensed to provide specific server functionality within an IT infrastructure.


Unlike with Windows Server 2003 R2 for Embedded Systems (see page 4), dedicated server and server appliance solutions running Windows Server 2003 for Embedded Systems with the Server Appliance Software 3.0 must be “headless” devices—without connection to a local keyboard, mouse, or monitor—that are remotely managed.

The included Server Appliance Software 3.0 runs on top of the Windows Server 2003 for Embedded Systems operating system and provides OEMs with a default Web browser–based interface for system management. The default Web browser–based user interface can be modified, customized, or replaced by the OEM’s own Web-based user interface.

DEVICE TYPE EXAMPLES:

- » Antivirus server
- » E-mail filtering server
- » Network traffic monitoring server
- » Miscellaneous server solutions with qualifying embedded application(s)

OEM LICENSABLE PRODUCTS

 WILL THE SERVER BE designed to participate in a Microsoft cluster?	EDITION	NOTES
IF YES,	Microsoft Windows Server 2003 with the Server Appliance Software 3.0 ENTERPRISE Edition (1-8 CPU)	» SP1 ¹ » no CALs required » 32-bit only
IF NO,	Microsoft Windows Server 2003 with the Server Appliance Software 3.0 STANDARD Edition (1-4 CPU)	» SP1 ¹ » no CALs required » 32-bit only

¹Note: As of August 2006, Windows Server 2003 for Embedded Systems with the Server Appliance Software 3.0 runs only on SP1 versions of Windows Server 2003. It is not available with Windows Server 2003 R2. Please check with a Microsoft Authorized Embedded Distributor regarding availability for R2.



Microsoft offers a special OEM version of Windows Server 2003 to provide a server operating system platform that meets the application-specific needs of the telecommunications market. With Windows Server 2003 for Telecommunications Systems with the Server Appliance Software 3.0, OEMs can leverage the improvements and new features of Windows Server 2003 to build versatile, easily manageable, and dependable telecommunications solutions.

Windows Server 2003 for Telecommunications Systems with the Server Appliance Software 3.0 includes the same software or technologies included in Windows Server 2003 for Embedded Systems with the Server Appliance Software 3.0 (see page 6), such as the familiarity of the developer environment, interoperability with other Windows-based servers, and integration with a rich set of server applications such as Microsoft SQL Server™ and Microsoft Exchange Server. In addition, this product enables features and functionality to facilitate the operation of embedded telecommunications systems.

Dedicated server or server appliance solutions running Windows Server 2003 for Telecommunications Systems with the Server Appliance Software 3.0 must be remotely managed, “headless” devices—without connection to a local keyboard, mouse, or monitor. Server Appliance Software 3.0 provides OEMs with a default Web browser–based interface for system management. The default Web browser–based user interface can be modified, customized, or replaced by the OEM’s own Web-based user interface.

DEVICE TYPE EXAMPLES:

- » PBX server
- » Call center server
- » IVR server
- » Teleconferencing server
- » Miscellaneous telecommunication server solutions with qualifying embedded application(s)

TELECOMMUNICATIONS SYSTEM EXAMPLE:



Servers running Windows Server 2003 for Telecommunications Systems

OEM LICENSABLE PRODUCT

EDITION	NOTES
Microsoft Windows Server 2003 for Telecommunications Systems with the Server Appliance Software 3.0 (1-4 CPU)	» SP1 ¹ » no CALs required

¹Note: As of August 2006, Windows Server 2003 for Telecommunications Systems with the Server Appliance Software 3.0 runs only on SP1 versions of Windows Server 2003. It is not available with Windows Server 2003 R2. Please check with a Microsoft Authorized Embedded Distributor regarding availability for R2.



A major challenge for realizing personal supercomputing has been the complexity of deployment and management. Microsoft has supported fault-tolerant and high-availability clustering for many years, but with the release of Microsoft Windows Compute Cluster Server (CCS) 2003, Microsoft brings the supercomputing power of high-performance computing (HPC) to the personal and workgroup level. CCS provides an integrated application platform for developing, deploying, running, and managing HPC applications. Using this platform, individuals and organizations can perform multimode workload computing using commodity x64 (64-bit x86) hardware in an environment that will shorten their time to insight.

Windows Compute Cluster Server 2003 brings together the power of commodity x64 computers, the ease of use and security of Active Directory, and the Windows operating system to provide a secure and affordable HPC solution. CCS can be easily and quickly deployed using standard Windows deployment technologies, and additional compute nodes can be added to the compute cluster by simply plugging in the nodes and connecting them. The Microsoft Message Passing Interface (MPI) implementation is fully compatible with the reference MPICH2. Integration with Active Directory helps enable role-based security for administration and users, and the use of Microsoft Management Console provides a familiar administrative and scheduling interface. Additionally, Microsoft Visual Studio® 2005 development system includes support for parallel job development and debugging.

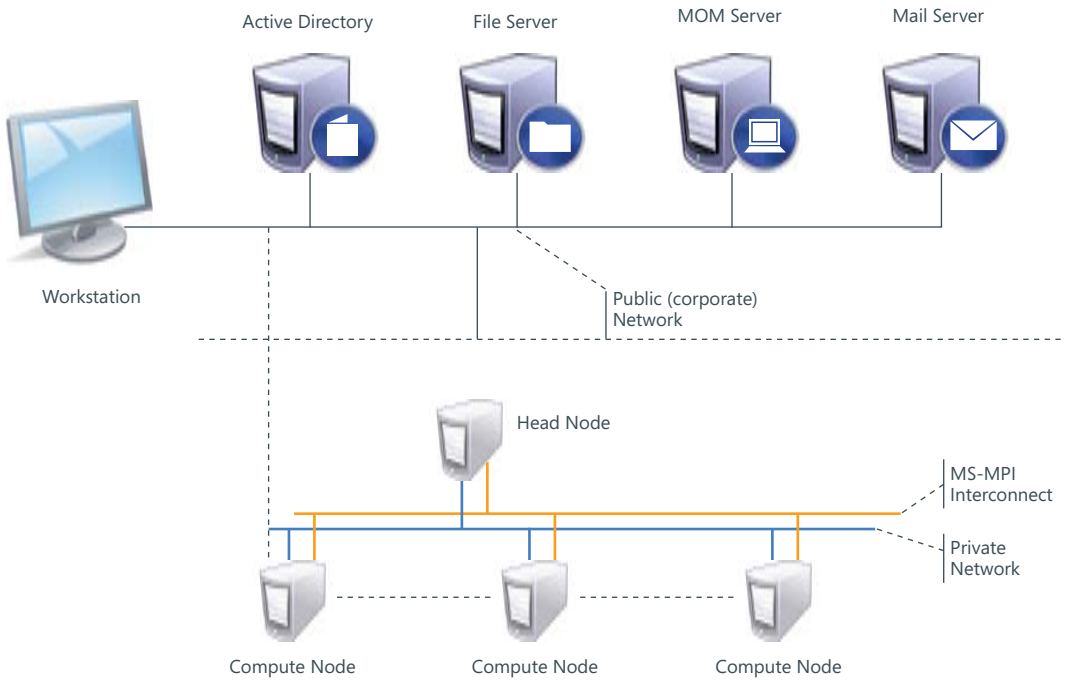
Windows Compute Cluster Server 2003 is available to OEMs who want to build and develop compute-intensive solutions quickly and easily by leveraging a set of well-supported application programming interfaces (APIs) and protocol interfaces.

BENEFIT	DESCRIPTION
Simplified Cluster Deployment and Management	CCS offers rapid node deployment and cluster configuration, monitoring tools, and policy-based scheduling, which provides a scalable management environment that is easy to use.
Better Integration with IT Infrastructure	CCS integrates seamlessly with existing Windows infrastructure, allowing customers to leverage the existing skills and technology for system and node management, workload management, user management, and security.
Broad Application Support	CCS is supported by leading applications in each target vertical, allowing customers to deploy mainstream applications with a broad base of support. An integrated software stack designed and targeted for HPC market allows developers to build a broad range of applications and tools.
Familiar Development Environment	Developing applications for CCS allows developers to leverage their existing Windows-based skills and experience. Microsoft Visual Studio is the most widely used integrated development environment (IDE) in the industry, and Visual Studio 2005 includes support for developing HPC applications (e.g., parallel debugger). CCS includes an integrated MPI layer based on the industry-standard MPI2 specification, making it easier to port existing parallel applications.

APPLICATION EXAMPLES:

- » Aircraft design utilizing composite materials
- » Vehicle fuel efficiency and safety improvements
- » Simulations of enzyme catalysis, protein folding
- » Aircraft design utilizing composite materials
- » Simulation of nanoscale electronic devices
- » Financial portfolio risk modeling
- » Digital content creation and enhancement
- » Supply chain modeling and optimization

TYPICAL WINDOWS COMPUTE CLUSTER SERVER 2003 NETWORK:



OEM LICENSABLE PRODUCT

<p>? WILL THE SERVER BE designed to participate in a Microsoft cluster?</p>	EDITION	NOTES
IF YES,	Microsoft Windows Compute Cluster Server 2003 ENTERPRISE Edition (1-4 CPU)	» 64-bit only
IF NO,	Microsoft Windows Compute Cluster Server 2003 STANDARD Edition (1-4 CPU)	» 64-bit only

Note: As of October 2006, CCS has planned availability through distribution of January 2007.

10 MICROSOFT WINDOWS SERVER 2003 R2 FOR EMBEDDED SYSTEMS WITH INTERNET SECURITY AND ACCELERATION SERVER 2006

www.microsoft.com/isaserver



Microsoft
Internet Security &
Acceleration Server

Microsoft Internet Security and Acceleration (ISA) Server 2006 is the integrated edge security gateway that helps protect IT environments from Internet-based threats while providing users with fast and secure remote access to applications and data. ISA Server 2006 is an advanced firewall, VPN, and Web-caching solution that enables customers to improve network security and performance.

Features of ISA Server 2006 include:

- » Secure Application Publishing: enables organizations to make their Exchange Server, Microsoft Office SharePoint® Portal Server 2003, and other Web application servers accessible in a secure manner to remote users outside the corporate network
- » Branch Office Gateway: organizations can connect to and secure their branch offices, while efficiently utilizing network bandwidth
- » Web Access Protection: helps organizations protect their environments from internally and externally originating Internet-based threats

ISA Server 2006 provides advanced protection, ease of use, and fast, secure access for all types of networks. ISA Server 2006 is particularly well suited for protecting Microsoft applications and services, such as Microsoft Office, Office Outlook® Web Access 2003, SharePoint Portal Server 2003, Internet Information Services (IIS), Routing and Remote Access Services, Active Directory, and many other Microsoft applications, servers, and services.

Microsoft licenses a special version of ISA Server 2006 to OEMs building dedicated servers and server appliances that provide IT security or Web-performance services. The embedded version of ISA Server 2006 is licensed together with a Windows Server 2003 for Embedded Systems operating system (see page 4), packaged together as a server platform.

Windows Server 2003 R2 for Embedded Systems with ISA Server 2006 is based on the same software as the generally available, retail versions of Windows Server 2003 and ISA Server 2006. The main difference is that the software must be used on dedicated servers or server appliances. In addition, the embedded version of ISA Server 2006 comes with special hardening tools to help OEMs optimize the security of the ISA Server 2006 application software and the Windows Server 2003 operating system. Both the Windows Server 2003 operating system and ISA Server 2006 software must be preinstalled on the dedicated server or server appliance solution.

DEVICE TYPE EXAMPLES:

- » VPN server
- » Firewall server
- » Web-caching server
- » SSL VPN
- » Antivirus

EXAMPLE OF SECURE APPLICATION PUBLISHING WITH MICROSOFT ISA SERVER 2006:



OEM LICENSABLE PRODUCTS

?	WILL THE SERVER BE DESIGNED FOR	EDITION	NOTES
?	Web-caching only? IF NO, IF YES,	Microsoft Windows Server 2003 R2 STANDARD Edition and Microsoft Internet and Acceleration Server 2006 STANDARD Edition	» 1 CPU » caching only » no VPN connection restrictions » no CALs required » 32-bit only
?	firewall/VPN only? IF NO,	Microsoft Windows Server 2003 R2 STANDARD Edition and Microsoft Internet and Acceleration Server 2006 STANDARD Edition	» 1 CPU » firewall only » up to 100 VPN connections » no CALs required » 32-bit only
?	Web-caching AND firewall supporting < 100 VPN connections? IF NO, IF YES,	Microsoft Windows Server 2003 R2 WORKGROUP Edition and Microsoft Internet and Acceleration Server 2006 STANDARD Edition	» 1 CPU » up to 100 VPN connections » no CALs required » 32-bit only
?	Web-caching AND firewall supporting < 1000 VPN connections? IF NO, IF YES,	Microsoft Windows Server 2003 R2 STANDARD Edition and Microsoft Internet and Acceleration Server 2006 STANDARD Edition	» 1 CPU » up to 1000 VPN connections » no CALs required » 32-bit only
?	Web-caching, firewall supporting, AND cluster support for < 4000 VPN connections? IF YES,	Microsoft Windows Server 2003 R2 STANDARD Edition and Microsoft Internet and Acceleration Server 2006 ENTERPRISE Edition	» 1 CPU » up to 4000 VPN connections » no CALs required » 32-bit only

12 MICROSOFT WINDOWS BRANCH OFFICE APPLIANCE

www.microsoft.com/branchoffice



Microsoft recognizes that organizations with branch offices spend too much time and money managing IT systems remotely. The Microsoft Branch Office solution helps to simplify delivery of services to the branch office. It offers the distributed enterprise an easy-to-manage, security-enhanced, high-performance infrastructure that delivers cost-effective IT services across the WAN. Specifically, Microsoft Windows Branch Office Appliance solutions incorporate Microsoft Windows Server 2003 R2 and Microsoft ISA Server 2006 and allows for the export of network services such as Active Directory, Domain Name Service (DNS), Windows Internet Name Service (WINS), Dynamic Host Control Protocol (DHCP), etc.–functionalities not permitted in the ISA Server–only SKUs.

Benefits of the Branch Office Appliance solution include:

- » Operational efficiency and reduced cost
- » Security and reliability
- » Productive workers

Windows Server 2003 R2 provides the underlying technology that can be used to simplify integration of branch office servers into the IT environment. With Windows Server 2003 R2, companies can maintain the performance, availability, and productivity benefits of a local branch office server while avoiding the negative issues that are typically associated with branch office environments, such as limited connectivity and management overhead.

Windows Server 2003 R2 helps to:

- » Keep the business running smoothly by utilizing faster data replication
- » Manage infrastructure more easily with centralized management tools
- » Reduce administrative costs by minimizing the need for local backup

Microsoft Windows Branch Office Appliance is an integrated platform delivering essential services for operating and protecting an isolated network in branch offices tethered by WAN or the Internet to corporate data centers. OEMs can quickly develop and deploy this solution as an addition to their server or dedicated server appliance portfolio, broadening their offerings and providing a more complete solution set to their customers.

OEM LICENSABLE PRODUCTS

? WILL THE SERVER BE designed to participate in a Microsoft cluster?	EDITION	NOTES
IF YES,	Microsoft Windows Branch Office Appliance ENTERPRISE Edition (1 CPU, 5 CAL)	<ul style="list-style-type: none"> » 32-bit only » 5 CALs included » add'l CALs available
IF NO,	Microsoft Windows Branch Office Appliance STANDARD Edition (1 CPU, 5 CAL)	<ul style="list-style-type: none"> » 32-bit only » 5 CALs included » add'l CALs available



Microsoft System Center Data Protection Manager (DPM) 2006 is a server software application that is designed from the ground up to optimize disk-based backup and recovery. DPM provides efficient, near-continuous protection of critical data and removes the burden of scheduling and tracking backup jobs and maintaining backup systems on multiple servers. DPM provides a smart solution for centralizing backups within a data center or backing up remote or branch office servers over a WAN to a central location.

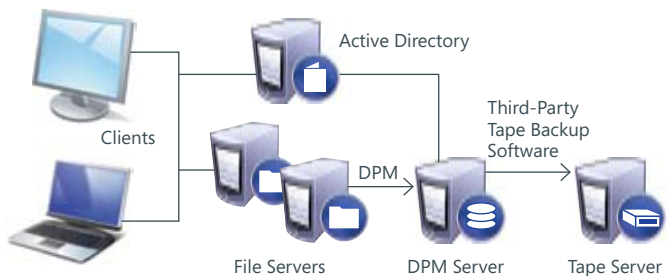
By centralizing protected data on a server using DPM, DPM enables rapid disk-based recovery of files, folders, shares, and servers, saving administrators time and reducing the downtime cost associated with recovery. DPM provides flexible synchronization and replica options that enable administrators to fine-tune synchronization and replica behavior to match their business requirements and operating environment. As a result, DPM delivers superior data protection value by providing a low-cost, high-speed way to safeguard critical data and to quickly recover it when necessary.

Microsoft Data Protection Manager 2006 for Embedded Systems is designed for use with Microsoft Windows Server 2003 R2 for Embedded Systems (see page 4) or Windows Storage Server 2003 R2 (see page 5). Both the operating system and DPM software must be preinstalled on the dedicated server or server appliance solution. A run-time version of SQL Server is included with the license of DPM. This SQL Server license is for use only with DPM and cannot be used as a stand-alone database or for other applications.

DEVICE TYPE EXAMPLES:

- » Disk-based backup and recovery server
- » Flexible byte-level replication server
- » Tape integration server

TYPICAL DPM INSTALLATION



OEM LICENSABLE PRODUCT

	EDITION	NOTES
	Microsoft System Center Data Protection Manager 2006 for Embedded Systems (3 DPML)	<ul style="list-style-type: none"> » 3 server agent licenses included, add'l server agents available » run-time version of SQL Server included



Microsoft SQL Server 2005 for Embedded Systems is an advanced database platform providing enterprise-class data management with integrated business intelligence tools. The SQL Server 2005 database engine provides more secure, reliable storage for both relational and structured data, enabling easy to manage, highly available, and high-performance data applications. Additionally, SQL Server 2005 combines Microsoft’s best available technology for analysis, reporting, integration, and notification. Benchmarked for scalability, speed, and performance, SQL Server 2005 is a fully enterprise-class database product, providing core support for XML and Internet queries.

SQL Server 2005 delivers increased security, scalability, and availability to enterprise data and analytical applications, while making them easier to build, deploy, and manage.

SQL Server 2005 for Embedded Systems is a run-time edition of SQL Server 2005 available to OEMs who want to use SQL Server 2005 as a database for embedded applications. SQL Server 2005 for Embedded Systems is the same as the generally available, retail version of SQL Server 2005. The key difference is that SQL Server 2005 for Embedded Systems must be used as a database for a specified embedded application, where clients do not interact directly with the SQL Server database.

SQL Server 2005 for Embedded Systems is designed for use with Windows Server 2003 for Embedded Systems (see page 4). Both the operating system and SQL Server 2005 software must be preinstalled on a dedicated server or server appliance solution.

DEVICE TYPES:

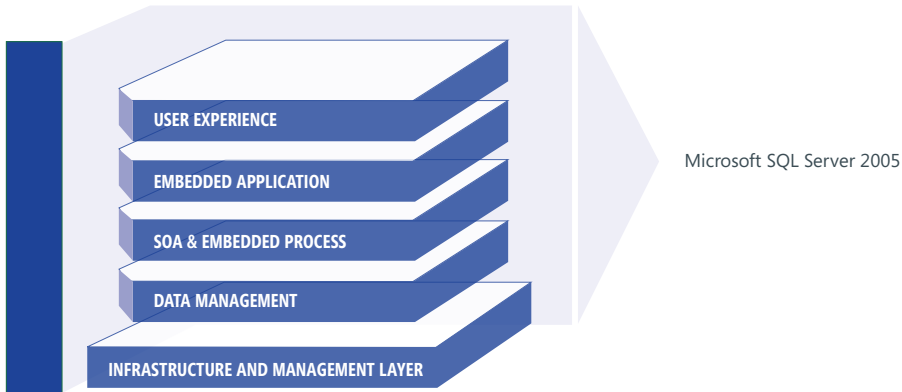
- » Document imaging database server
- » Integrated voice messaging system database server
- » Microsoft Windows Storage Server 2003 database server
- » Miscellaneous database servers for qualifying embedded application(s)

OEM LICENSABLE PRODUCTS

?	WILL THE SERVER	EDITION	NOTES
?	have 2 or fewer processors? IF NO, IF YES,	Microsoft SQL Server 2005 ¹ WORKGROUP Edition	» 32-bit only » available per processor OR with CALs
?	need to support database mirroring and clustering and have 4 or fewer processors? IF NO, IF YES,	Microsoft SQL Server 2005 STANDARD Edition	» 32-bit or 64-bit versions » available per processor OR with CALs
?	will the server need to support database mirroring, clustering, partitioning, parallel index operations, index views, and online indexing and restore? IF YES,	Microsoft SQL Server 2005 ENTERPRISE Edition	» 32-bit or 64-bit versions » available per processor OR with CALs

¹Note: Previous versions of SQL Server, including SQL Server 2000 for Embedded Systems, are also available for license. Please contact a Microsoft Authorized Embedded Distributor for details.

SQL SERVER 2005 DATABASE APPLICATION PLATFORM



EVALUATION SOFTWARE

EVALUATE BEFORE YOU LICENSE

Windows Embedded Server products are available for evaluation prior to licensing. To get Windows Embedded Server products evaluation software, either order an evaluation kit from a Microsoft Authorized Embedded Distributor or download online at:

www.microsoft.com/windowsserversystem/solutions/specializedservers/OEM/Evaluation.mspix

EVALUATION SOFTWARE PRODUCT KEYS

Some Windows Embedded Server products evaluation software require a unique product key to activate at time of installation. Required product keys are provided automatically if and when the Windows Embedded Server products evaluation software is downloaded online. If obtained on physical media (on disc) within an evaluation kit, required product keys can be obtained by completing a simple online registration at:

www.microsoft.com/windowsserversystem/solutions/specializedservers/OEM/Evaluation.mspix

OEM PREINSTALLATION KITS

Microsoft provides the tools required for OEMs to quickly design dedicated server and server appliances solutions based on the Microsoft server product portfolio technology. These tools are called OEM Preinstallation Kits (OPKs), and they jump-start the process of building a dedicated server or server appliance solution running Windows Embedded Server products.

To obtain appropriate Windows Embedded Server products OPKs, OEMs must first sign an OEM Customer License Agreement (OEM CLA). See the Licensing Overview and How to License: A General Illustration within this product guide for more information.

LICENSING OVERVIEW

Windows Embedded Server products are available for use in dedicated server and server appliance solutions by licensed OEMs only. Windows Embedded Server products can be licensed through Microsoft Authorized Embedded Distributors and, in certain high-volume cases, directly from Microsoft. To obtain a courtesy copy of the licensing provisions for the products summarized in the tables on pages 4-14, please contact a Microsoft Authorized Embedded Distributor.

HOW TO BUY

Microsoft has a network of worldwide distributors responsible for licensing Windows Embedded Server products. Microsoft Authorized Embedded Distributors have been chosen to offer Windows Embedded Server products because of their unique strengths in the industry. Find a distributor in your region at: www.microsoft.com/windowsserver/system/solutions/specializedservers/OEM/Licensing.mspix.

Microsoft provides a clearly defined licensing process, product information, tools, and resources to ensure greater productivity and fast time-to-market for OEMs and developers building dedicated server and server appliance solutions running Microsoft Windows Embedded Server products.

WINDOWS EMBEDDED SERVER PRODUCTS COMPONENTS

It is helpful to understand the basic software components of a dedicated server or server appliance solution running Windows Embedded Server products. The following diagram provides a useful outline and helps distinguish available options and opportunities for OEMs to build unique solutions running Windows Embedded Server products.

TYPICAL OEM PRODUCT DEVELOPMENT AND LICENSING STEPS:

- 1 Evaluate Windows Embedded Server products software
- 2 Prepare prototype and test proof of concept
- 3 Contact your Microsoft Authorized Embedded Distributor to determine which product to use and request OEM CLA and associated Additional Licensing Provisions (ALPs) for review
- 4 Sign the OEM CLA, return to the distributor, and request appropriate Windows Embedded Server product OPK
- 5 Design, develop, and test server prototype and install the selected Windows Embedded Server products and embedded application (if applicable)
- 6 Lock down the operating system for fixed function use (if applicable)
- 7 Prepare and clone final image for manufacture
- 8 Perform QA & Test systems
- 9 Activate the operating system using the Windows Product Activation (WPA) method or System Lock Preinstallation (SLP) if and when the OEM is eligible for SLP by shipping 100 units or more during the previous 12 months
- 10 Ship each system with the required Microsoft Software License Terms and Certificate of Authenticity (COA) affixed to the outside of the server enclosure
- 11 Obtain a Windows Embedded Server Marketing and Technical Resources Toolkit from your distributor or Microsoft Account Manager, and begin marketing and selling Windows Embedded Server-based solution

Windows Embedded Server products licensing is a straightforward process once the correct product to license is identified.

A general illustration on how to license Windows Embedded Server products is described below. The licensing process may vary per product and is subject to change, so please check with your Microsoft Authorized Embedded Distributor for exact details.

STAGE 1: FIND A DISTRIBUTOR	
<ul style="list-style-type: none"> • Contact a Windows Embedded Authorized Distributor today for specific licensing details and access to the complete set of development tools available to help bring your dedicated server to market quickly • Authorized Distributors can provide Microsoft Windows Embedded Server Evaluation Kits and licensing information • In certain, high-volume cases, OEMs can license directly from Microsoft 	<ul style="list-style-type: none"> » Identify a Microsoft Authorized Embedded Distributor in your region » Visit www.microsoft.com/specializedservers <ul style="list-style-type: none"> • In the left-hand navigation select Become An OEM >> Licensing Information • Select your region • Select a Microsoft Authorized Embedded Server Distributor
STAGE 2: PRESALES	
<ul style="list-style-type: none"> • OEM contacts Microsoft Authorized Embedded Distributor • OEM obtains a Windows Embedded Server Evaluation Kit from a distributor, a Microsoft manager, or online using Microsoft.com and obtains relevant product keys, if applicable • Distributor provides a Microsoft OEM CLA for embedded systems and a courtesy copy of the ALPs for the Microsoft Windows Embedded Server product of interest 	<p>OEM CLA. A standard set of general terms and conditions that each OEM must sign in order to acquire Microsoft Windows Embedded Server products licenses.</p> <p>ALPs. ALPs define product use rights and restrictions specific to each of the individual Microsoft Windows Embedded Server products.</p>
STAGE 3: SIGNED OEM CLA	
<ul style="list-style-type: none"> • For eligible products, distributor provides OEM with OPK 	<p>OPK. Kits that include software and tools relevant to the specific Windows Embedded Server products being licensed.</p>
STAGE 4: ENGINEERING	
<ul style="list-style-type: none"> • OEM completes development of the master embedded server image • OEM contacts distributor to order Run-time Licenses, Associated Product Materials (APM), and CALs, if applicable • OEM may create and reproduce, or have a Microsoft Authorized Replicator reproduce, a Recovery CD/DVD • OEM may want to consider engaging support through an OEM Engineering contract (see page 18) 	<p>Run-time License. After ordering Run-time Licenses, the OEM will receive APM from the distributor. APM consists of materials Microsoft designates that are required for distribution with the embedded system. APM typically includes at least two items—the COA and the ALPs that include specific Microsoft Software License Terms. Each embedded system being distributed requires a Run-time License. Depending on the product(s) licensed, a CAL may be required for each user or device (or combination of both) that accesses or uses the Windows Embedded Server products server software.</p>
STAGE 5: ENGINEERING	
<ul style="list-style-type: none"> • OEM activates the Windows Embedded Server products 	<p>Product Activation. Prior to distribution to end customers, the OEM must activate the Windows Server 2003–based product through one of two options: 1) WPA method—a manual procedure that requires an Internet connection or 2) SLP—an automated activation procedure. OEMs become eligible to use SLP by shipping 100 units or more in the previous 12 months.</p>
STAGE 6: DISTRIBUTION AND SALES	
<ul style="list-style-type: none"> • Customer distributes embedded systems with a COA and Microsoft Software License Terms as required 	<p>COA. A serialized label affixed to devices containing embedded Microsoft operating systems. The COA is the primary antipiracy tool, product tracking tool, and proof of purchase. The product-specific name is printed on the label.</p> <p>Microsoft Software License Terms. The terms and conditions that must be passed through to the end user, packaged together with the dedicated server or server appliance when shipped.</p>

WINDOWS DEDICATED SERVERS WEB SITE

Explore existing OEM solutions running Windows Embedded Server products, review licensing resources, download evaluation software, and find a Microsoft Authorized Embedded Distributor at: www.microsoft.com/specializedservers

WINDOWS SERVER WEB SITE

Get to know the portfolio of integrated server software products that provides the infrastructure for IT operations, application development and integration, security, and collaboration at: www.microsoft.com/server

PRODUCT WEB SITES

Review product overviews and find answers to product-specific questions at:

Windows Server 2003 R2 www.microsoft.com/windowsserver2003

Windows Storage Server 2003 R2 www.microsoft.com/storage

Compute Cluster Server 2003 www.microsoft.com/hpc

ISA Server 2006 www.microsoft.com/isaserver

Windows Branch Office Appliance www.microsoft.com/branchoffice

Data Protection Manager 2006 www.microsoft.com/dpm

SQL Server 2005 www.microsoft.com/sql

HARDWARE SPECIFICATIONS

Find hardware specifications for dedicated servers and server appliance solutions running on Windows Embedded Server products that come with the Server Appliance Software 3.0 at: http://msdn.microsoft.com/library/default.asp?url=/library/en-us/sakHDK/SA_Hardware_Reference_Spec.asp

DISTRIBUTORS

Windows Embedded Server licenses are only distributed through Microsoft Authorized Embedded Distributors. Authorized Embedded Distributors provide valuable information and resources that help support OEMs in bringing Windows Embedded Server solutions to market quickly.

Microsoft Authorized Embedded Distributors can aid OEMs with Windows Embedded Server products in several ways, including:

- » Providing Windows Embedded Server Evaluation Kits
- » Helping choose the right product and navigating the licensing process
- » Providing evaluation software and OPKs
- » Facilitating the build process with technical support and by offering value-added services
- » Discussing pricing and licensing options and selling Run-time Licenses
- » Supporting OEMs to bring new Windows Server-based dedicated server or server appliance solutions to market quickly

Find a distributor in your region at:

www.microsoft.com/windowsserversystem/solutions/specializedservers/OEM/Licensing.mspx

MICROSOFT OEM ENGINEERING SERVICES

To remain competitive in today's marketplace, it is imperative to accelerate time-to-market of high quality, differentiated hardware and software solutions. Microsoft's OEM Services group provides access to a team of technical professionals who possess deep industry knowledge and focus solely on helping you build and ship quality products on Microsoft platforms. Contact us for more information at: oesinfo@microsoft.com.

- 1 **Why would an OEM choose a Windows Embedded Server product over a nonembedded version of the product?** Microsoft has developed specific solutions to answer customers' embedded server needs. These Windows Embedded Server versions offer lower royalty rates due to the licensing terms that restrict how they can be used. This can result in lower development costs that an OEM can pass through to end customers.
- 2 **Are per user or per client CALs required for server solutions running Windows Embedded Server products?** In many cases, CALs are not required for dedicated server and server appliance solutions running Windows Embedded Server products.
- 3 **Can ISV solutions designed to run on Windows Server 2003 run on the embedded versions available as Windows Embedded Server products?** Yes, in most cases, ISV solutions designed to run on Windows Server 2003 can run on the embedded versions where licensing restrictions permit. This provides OEMs an opportunity to add unique value to their dedicated server and server appliance solutions running Windows Embedded Server products.
- 4 **Are there any features removed from Windows Server 2003 in the embedded versions available as Windows Embedded Server products?** No, the core operating system is the same. The difference is in the OEM's license rights and restrictions, as summarized for each product within this product guide.
- 5 **What is the best source for detailed licensing information and support?** Detailed licensing information and support can be obtained from a Microsoft Authorized Embedded Distributor. For a complete list, please visit www.microsoft.com/windowsserversystem/solutions/specializedservers/OEM/Licensing.aspx
- 6 **Does Microsoft license Windows Embedded Server products directly to OEMs?** In certain high-volume cases OEMs can license directly from Microsoft. Contact your Microsoft Account Manager to see if you qualify.
- 7 **Where can I learn more about nonembedded Windows Server products?**

For more info on Windows Server 2003 R2, visit www.microsoft.com/windowsserver2003

The Windows Server 2003 R2 operating system extends Windows Server 2003, providing a more efficient way to manage and control access to local and remote resources while at the same time integrating easily into your existing Windows Server 2003 environment. Windows Server 2003 R2 provides a scalable, security-enhanced Web platform and enables new scenarios, including simplified branch server management, improved identity and access management, and more efficient storage management. The R2 release builds upon the increased security, reliability, and performance provided by Windows Server 2003 Service Pack 1.

For more info on Windows Small Business Server R2, visit www.microsoft.com/sbs

Windows Small Business Server 2003 R2 (SBS) is an advanced IT solution designed to help you protect your data, do more with less, and connect with customers like never before. SBS 2003 R2 provides small businesses with many of the features used by large companies – e-mail, Internet connection, internal Web sites, remote access, support for mobile devices, file and printer sharing, backup and restore – all in one affordable, integrated solution.

For info on all other Windows Servers, visit www.microsoft.com/server

WINDOWS SERVER 2003 RETAIL VS. WINDOWS EMBEDDED SERVER PRODUCTS LICENSING RESTRICTION COMPARISON

LICENSING PROVISIONS	RETAIL/NONEMBEDDED (STANDARD EDITION)
	WINDOWS SERVER 2003 R2
OPERATING SYSTEM CODE BASE	R2
PROCESSORS	1-4
KEYBOARD, VIDEO, AND MOUSE	OPTIONAL
REMOTE MANAGEMENT INTERFACE	OPTIONAL
PREINSTALLED OPERATING SYSTEM	OPTIONAL
LINE-OF-BUSINESS APPLICATIONS	OPTIONAL
EMBEDDED APPLICATIONS	OPTIONAL
FIREWALL, VPN, AND WEB CACHE	OPTIONAL
MESSAGING OR ENTERPRISE MAIL	YES
FILE SERVICE OVER NETWORK	YES
AUTHENTICATION SERVICES	YES
NETWORK INFRASTRUCTURE SERVICES	YES
MICROSOFT NETWORK LOAD BALANCING	YES
CLUSTERING	NO
PRINT	YES
CALS REQUIRED	YES

Note: Bold text is used to indicate where Windows Embedded Server products licensing provisions differ from the retail version of Windows Server 2003.
 *Microsoft Windows Storage Server supports Microsoft SharePoint and Single Instance Storage and is available in editions with iSCSI management.

WINDOWS EMBEDDED SERVER PRODUCTS (ALL STANDARD EDITION)

WINDOWS SERVER 2003 R2 FOR EMBEDDED SYSTEMS (PAGE 04)	WINDOWS STORAGE SERVER 2003 R2* (PAGE 05)	WINDOWS SERVER 2003 R2 FOR EMBEDDED SYSTEMS WITH MICROSOFT INTERNET AND ACCELERATION (ISA) SERVER 2006 (PAGES 10-11)	WINDOWS BRANCH OFFICE APPLIANCE (PAGE 12)	WINDOWS SERVER 2003 FOR EMBEDDED SYSTEMS WITH THE SERVER APPLIANCE SOFTWARE 3.0 (PAGE 06)
R2	R2	R1 WITH SP1	R2	R1 WITH SP1
1-4	1-4	1-2	1	1-4
OPTIONAL	NO	NO	NO	NO
OPTIONAL	MMC	MMC	MMC	WEB USER INTERFACE
MANDATORY	MANDATORY	MANDATORY	MANDATORY	MANDATORY
NO	NO	NO	NO	NO
MANDATORY	NO	NO	NO	MANDATORY
OPTIONAL	NO	MANDATORY	CACHE ONLY	NO
YES	NO	NO	NO	POP3 MAIL ONLY (VOICE WITH SAS TELCO)
YES	MANDATORY	NO	YES	NO
YES	NO	NO	YES	NO
YES	NO	NO	YES	NO
YES	NO	NO	NO	YES
NO	NO	NO	NO	NO
YES	YES	NO	YES	NO
YES	NO	NO	YES	NO



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